

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A direct vessel injection-type pressurized light water reactor (DVI-PLWR) comprising:

a pressure vessel, a core barrel positioned in the pressure vessel, a substantially horizontal positioned nozzle penetrating a wall of the pressure vessel, wherein the nozzle functions as a cold leg, a plurality of longitudinal corrugations vertically arranged around each of (1) an inner surface of a the pressure vessel of a reactor vessel and (2) an outer surface of a the core barrel of the reactor vessel at regular intervals to form a, wherein vertical groove grooves are defined between two neighboring corrugations.

Claim 2 (currently amended): The direct vessel injection-type pressurized light water reactor (DVI-PLWR) according to claim 1, wherein each of the corrugations is bisected along a perpendicular bisector into two inclined surfaces, wherein each corrugation has a V-shaped cross-section, with the two inclined surfaces meeting at a predetermined angle of intersection.

Claim 3 (currently amended): The direct vessel injection-type pressurized light water reactor (DVI-PLWR) according to claim 2, wherein each of the corrugations is provided with a welding flange along an outside edge of each of the two inclined surfaces.

Claim 4 (currently amended): The direct vessel injection-type pressurized light water reactor (DVI-PLWR) according to claim 2,

wherein each of the corrugations is provided with a plurality of holes which are formed along each of the two inclined surfaces at regular intervals.

Claim 5 (currently amended): The direct vessel injection-type pressurized light water reactor (DVI-PLWR) according to claim 4, wherein each of the holes has a diameter of  $1/2$  of a width (h) of each of the two inclined surfaces, and the regular intervals of the holes are set such that a distance between centers of the holes is equal to the width (h) of each of the two inclined surfaces.

Claim 6 (cancelled).